

Response to 8/11/08 NPS BART Comments on Coal Creek (7/16/09)

Coal Creek SO₂. The August 11, 2008 NPS comments are summarized below followed by the Department responses.

1. NPS Comment: ND DOH should explain how it determined that upgrading the scrubbers to achieve 96% control is not economically reasonable.

NDDH Response: The August 2006 BART Analysis to which the comment refers was the first of several versions of that document issued by GRE over a 16-month period. Subsequent versions revised previous information to reflect the best available assessment to that date. The final version was issued by GRE in December of 2007 and is the document associated with the Department's analysis. Although preliminary information from GRE indicated the possibility of modifying the existing scrubber for 96% control, they subsequently revised that to 94%.

The Department's experience indicates that 96% control should only be expected for a unit combusting coal with a higher sulfur content typically found in Eastern coal. The Coal Creek scrubbers are nearly 30 years old and retrofitting them is not expected to achieve greater than 95% control. The Department BART determination and the Permit to Construct have been revised to require the modified wet scrubber to achieve the same level of SO₂ control efficiency as wet scrubber replacement: 95% (30-day rolling average) on the inlet SO₂ concentration to the scrubber or 0.15 lb/10⁶ Btu (30-day rolling average).

2. NPS Comment: ND DOH should explain why a 0.263 dV improvement is "negligible."

NDDH Response: The Department BART determination and the Permit to Construct have been revised to require the modified wet scrubber to achieve the same level of SO₂ control efficiency as wet scrubber replacement: 95% (30-day rolling average) on the inlet SO₂ concentration to the scrubber or 0.15 lb/10⁶ Btu (30-day rolling average). With this change, wet scrubber replacement would provide no improvement in visibility at any Class I area and would result in additional cost over wet scrubber modification (\$24,987/ton incremental cost).

3. NPS Comment: ND DOH should explain where the modeling results cited in the ND DOH report are.

NDDH Response: A previous NPS email dated 8/4/08 at 6:02 p.m. indicates this comment likely refers to modeling that would allow a comparison of the effects on visibility due to SO₂ reductions provided by wet scrubber replacement (95%), wet scrubber modification (then 94%, now 95%), and the addition of a spray dryer (90%). Pages 51-53 of the GRE analysis contain the modeling results of the impact on visibility associated with wet scrubber modification (at 94%) and wet scrubber replacement in conjunction with the most favorable NO_x control options. Although the spray dryer option is not represented, that option would provide only 90% control while the scrubber

modification and replacement options that are presented would provide 95% control. The Department does not require additional modeling details to determine that the spray dryer option at 90% control is not BART.

4. NPS Comment: GRE has assumed that residual ammonia in the fly ash would render the ash, which it currently sells, unsalable. This issue must be resolved.

NDDH Response: In conjunction with previous comments in an NPS email dated 8/4/08 at 4:53 p.m., this comment appears to refer to a request for additional information to support the GRE position that employing SNCR technology may negatively affect fly ash sales due to ammonia slip. The attached GRE emails dated 8/8/08 at 3:19 p.m. and 8/17/08 at 2:22 p.m. provide additional information on this issue. The Department also considered a summary of a University of Kentucky study on the issue (attached) and has reached the following conclusions.

- SCR and SNCR use at Coal Creek Station will likely result in ammonia in the fly ash.
- The level of ammonia in the fly ash cannot be predicted with a reasonable certainty.
- The maximum level of ammonia in fly ash that would still avoid negative impacts on the salability of the ash cannot be predicted.

Therefore, the Department cannot determine with reasonable certainty that SCR or SNCR will not result in a level of ammonia in the ash that could reduce or eliminate future ash sales. Any regulator who determines that SCR or SNCR will not jeopardize ash sales would be obligated to present the evidence in support of that position. While another regulator might determine that even a small improvement in visibility is worth GRE taking the risk of lost ash sales, making a wrong decision on this one will inflict a significant financial penalty on GRE and send ash to a landfill instead of it being used beneficially. Having considered all of the information available, the NDDH BART determination on this matter remains unchanged and the Department considers the issue resolved.